FireWise Construction

FireWise Neighborhood

This neighborhood has acted to reduce accumulations of hazardous forest-fuels, promote the use of limited-combustible building materials, and educate property owners regarding the risk of wildfire and steps necessary to reduce the threat.

In recognition of this achievement, this award is presented by the Flagstaff Fire Department.
What Is FireWise Construction

- Promotes fire resistiveness
- Required for new construction (in Flagstaff)
- Found predominantly in the Wildland-Urban Interface
- Compliments vegetation management
- Behavior modification (landscaping & storage)

- Site location
- Roof material
- Roof venting
- Soffits & eaves
- Siding material
- Deck material & construction
What is the Wildland – Urban Interface?

**Traditional Definition**
Where structural improvements are built in close proximity to or among forested areas.

**New Definition**
Where community values may be threatened by a catastrophic wildfires.
Values such as: watersheds, wildlife habitat, recreation, economic development, public health, emotional connectedness to the land.
Traditional Wildland – Urban Interface

The Flagstaff “Interface”
FireWise Roofs

Burning Brand Test – brands applied to roof covering (to see if they ignite)

Flying Brand Test – flame applied to roof covering (to see if they create flying embers)

Class A – effective against severe fire exposure.
Class B – effective against moderate fire exposure.
Class C – effective against light fire exposure.

Flame Spread also tested.
FireWise Roofs

- Metal: sheet & shingles
- Slate Shingles
- Clay Tile
- Asphalt Shingles
- Fiber-cement Shingles
- Membrane Roofs: covered with concrete

NO WOOD SHAKE OR SHINGLES!!
Metal Roof
Slate Shingles
Soffits
The extension of the roof beyond the exterior wall is the eave. Enclosing the eave creates a soffit.

Flat soffits best – FireWise Construction page 18 & 19

Roof Venting
• Gable vents
• Turbine vents
• Metal vents
• Eave fascia vents
• Dormer vents

Vents subject to embers need wire mesh ¼ inch or smaller
Gable Vents
Metal Vents
Dormer Vents
Soffit Enclosures
Siding Material

• Fiber Cement Products
  – HardiBoard
  – HardiPlank

• Masonry Products
  – Concrete block
  – Rock (veneer or solid)
  – Stucco
Fiber Cement Siding
Stucco
FireWise Decks

• Deck assemblies are not lab tested for performance in wildfires.
• Deck assemblies are not tested like roofs are tested.
• Decks are second most vulnerable component of a home to ignite during wildfires.
• Accumulation of debris (pine needles) on surface and vegetation under decks are primary problems.
Flagstaff Fire Dept Deck Tests

• Ad Hoc tests conducted in March 2002.
• Decks subjected to burning embers.
• Decks subjected to a surface fire.
• Multiple materials tested:
  – Wood
  – Trex
  – Timbertech
  – Choicedek
Deck Test – Burning Embers
Deck Test – Burning Embers
Deck Test – Burning Embers
Deck Test – Surface Fire
Deck Test – Surface Fire (Redwood)
Deck Test – Surface Fire (Redwood)
Deck Test – Surface Fire (Redwood)
Deck Test – Surface Fire (Trex)
Deck Test – Surface Fire (Trex)
Deck Stairs
Deck Stairs
Deck Storage – Nothing Under the Deck
Vegetation Management

• Ponderosa Pine forests are a “fire dependant” ecosystem. (low intensity & frequent fire)
• Catastrophic wildfire is NOT NORMAL.
• Scientific research puts historical tree density between 20 to 60 trees per acre.
• Existing tree density is between 200 – 1,000 trees per acre.
• Thin first, then broadcast burn.
• Remove fuel ladders & horizontal continuity.
• Landscape with fire resistant plants.
Current Vegetative Condition
Flagstaff Area Practices

**City of Flagstaff**
- Forest Stewardship required for new subdivisions and building permits in wildland-urban interface.
- Class A and B roofs required.
- Fire resistive siding required in wildland-urban interface.
- Deck materials limited to wood and Trex in wildland-urban interface. Boardwalk & Geodeck are being tested.
- FireWise plant material required in wildland-urban interface.
- Woodpile locations and deck storage addressed w/education.

**Coconino County**
- Forest Stewardship required for new subdivisions and building permits in wildland-urban interface.
- Class B roofs required.
- Other wildland-urban interface requirements under consideration in comprehensive plan amendments.

**Fire Districts**
- Flagstaff Ranch similar to City.
- Other Districts may use a combination of requirements based on CCR’s.
Other Considerations

• Homeowner responsibility is fundamental to community safety.

• Homeowner associations should consider CCR amendments.

• Insurance companies are changing their view of underwriting homes in wildland – urban interface.

• Economies of various materials vary.
Summary

• FireWise development is affordable and attainable with existing technology.
• Educating the community is preferred over enforcement, but enforcement may be necessary.
• Human behaviors must be addressed (storage under decks, maintenance & woodpiles).
• Homeowner responsibility and accountability is key to community safety.
• The Flagstaff Fire Dept and others will help.
• Call Flag Fire at 779-7688 or visit our website at www.flagstaff.az.gov/fuelmanagement.
Don’t Be This Guy